April 16, 2002

MEMORANDUM TO WILLIAM BRINKMAN
CHAIR, LABORATORY OPERATIONS BOARD

FROM PAUL GILMAN
CHAIR, LOB BEST PRACTICES WORKING GROUP

SUBJECT: Letter report: Need for and barriers to the adoption of the "DOE Best Practices Pilot"

In November 2001, Under Secretary Robert Card asked that the Laboratory Operations Board (LOB) form a working group to review a report by a study team formed at the Lawrence Berkeley National Laboratory (LBNL). The laboratory is managed by The University of California and is accountable to the Department of Energy's (DOE) Science program office. Under Secretary Card asked the Working Group to review the Study Team's findings and suggest ways to broaden or supplement their findings and apply them to other DOE laboratories. The outcome of the effort anticipated by Under Secretary Card in his charter to the Working Group was the establishment of a clearly defined, self-directing and focused vision of the Department's research and development and management missions.

The "DOE Best Practices Pilot Report" developed by the Berkeley Laboratory Study Team asks the Department of Energy to adopt best practices that address management relationships within the national laboratories that are critical to operational efficiency and effectiveness in conducting the Department's national science mission. The Study Team developed their list of best practices after visiting two Federally Funded Research and Development Centers (FFRDC) that conduct research for other Federal agencies.

The Berkeley Laboratory Study Team visited the Jet Propulsion Laboratory, funded by the National Aeronautics and Space Administration, and the National Center for Atmospheric Research, funded by the National Science Foundation. Both Laboratories are noted centers of research excellence. The Study Team gathered comparative information to evaluate management, contractual, administrative and operational practices at the laboratories. The Study Team sought to identify management principles and model practices that struck a balance between necessary administrative oversight and mission success. It focused on the areas of laboratory contract management, implementation of operations and administrative directives, business and personnel systems and policy, counterintelligence and security, environmental health and safety, facilities and infrastructure, and construction project management.

Barriers to Best Practices. The "Best Practices Pilot" report identified six best practices. The study team estimates that, if implemented, these best practices could provide cost savings of 10 to 30 percent of administrative and operational expenses at the laboratory. The Laboratory is asking the Department of Energy to initiate a pilot incorporating the recommended best practices.

In discussions about the proposed pilot, members noted that implementation of the suggested pilot will affect the interaction of Departmental headquarters elements and the laboratory and will require behavior changes at the headquarters as well as at the lab. Savings may be achieved at both the laboratory and headquarters and could be available for investment in critical mission and institutional needs.

The Laboratory Operations Board Working Group believes that the management best practices identified by Lawrence Berkeley National Laboratory are necessary to improve laboratory management and should be adopted. However, the working group members believe that there are significant barriers to achieving the successful implementation of the practices. Each of the management best practices identified by the Berkeley Laboratory Study Team is listed in bold in the following section, followed by a brief explanation of its intent. In listing each practice, a following paragraph notes barriers that must be addressed by the Department and/or laboratory prior to adoption of the management best practice or initiation of a pilot.

- **Single Official for Oversight.** This practice requires the Department or program office to identify a single Federal official who would be responsible for mission success and administrative and operational oversight.

  Barriers: In their discussions, the working group members identified adoption of this best practice as the single most important step the Department could take to improve administrative and operational efficiency. However, they expressed concern that to overcome the inertia in the Department of Energy system will require firm, committed, and sustained leadership at the secretary, under secretary, and assistant secretary levels. The members believe that without clearly delineated accountability, meaning that both authority and responsibility are clear and unambiguous, the structural changes needed in the organization will not be accomplished and institutionalized. Only if an implementation plan to force the program office to set decision points and milestones is developed and accepted by all levels of management will this best practice take hold throughout the DOE system.

- **Federal Requirements and National Standards.** Lawrence Berkeley National Laboratory describes its situation as operating under DOE contract-prescribed requirements that dictate what and how administrative and operational actions are to be undertaken. The laboratory hopes to have greater latitude to develop efficient and effective administrative and operational processes and procedures if this best practice is accepted.

- Barriers. Two actions are needed to establish a process for reviewing and adopting Federal and national standards. First, a decision must be made by the Department of Energy management concerning at what level the cross-program functional areas of the Department (e.g., human resources; environment, safety, and health; accounting and budget) will interact with the science program office and laboratory in determining which requirements are applicable for an installation. Second, a process for implementing the pilot should be defined, with agreed upon milestones and specific decision points.

- **National Experts for A&O Reviews.** As an example of this best practice, the laboratory study team learned that the National Science Foundation relies on a single annual audit of the National Center for Atmospheric Research's finances by a nationally recognized accounting firm. This best practice suggests that the quality, compliance, and performance levels of administrative and operational systems can be accomplished through a combination of expert reviews, internal audits, and performance-based management tools.

  Barriers: Processes for determining the identity of these experts and obtaining their services have not been defined and will take time to develop. One member pointed out that the expected efficiencies might not be realized, as reductions in personnel do not always result in efficiencies. However, the reporting and performance reviews now in place are said to engage personnel at a number of levels. Reducing the number of transactional reviews and replacing them with reviews that verify an appropriate system is in place may achieve savings. However, documentation is required to demonstrate if and what kind of efficiencies can be achieved.

- **Flexibility in Implementation of Directives.** This best practice would allow the laboratory to exercise discretion in the manner in which work is actually performed, rather than dictate that the laboratory is required to comply with unilaterally prescribed directives from the Department of Energy.

  Barriers: The Department's contracting office must be in agreement if this best practice is to be adopted. Contract language to provide processes for negotiating bilateral agreements to address implementation of Departmental directives at each facility is necessary and desirable. However, a process must be defined for how directives will be reviewed, and the savings should be captured through establishment of a baseline prior to initiation of the pilot. Lack of documentation on the extent of the expected savings leaves the argument for adoption of the best practice less convincing.

- **Systems-based Performance Measurement.** This best practice suggests that nationally standardized system requirements and practices exist and should be used. Adopting this practice would allow the laboratory to benchmark its administrative and operational results against other systems.

  Barrier: It appears from the "Best Practice Pilot" report that the Department has mistaken inclusion of prescriptive directions in contracts accompanied with multiple specific performance measures for results-oriented performance-based management. The report suggests that to correct this problem, systems-level metrics should be adopted; however, none were suggested. Some members believe that the system-level metrics need to be identified and a baseline developed prior to the beginning of a pilot, and not as part of the pilot. If the effort proves too difficult, the pilot will fail.

- **Contractor Incentive Systems.** In recommending this best practice, the laboratory suggested that the incentive system must be designed with mission interests foremost. The laboratory identified a 1-year contract extension as a preferred incentive reward for their not-for-profit contracting organization.

  Barriers: The importance of a contractor incentive system is not in doubt. However, some working group members expressed skepticism concerning the position that money is not an incentive for a not-for-profit contractor. The assertion makes adoption of this candidate best practice problematical because questions concerning the "right" incentives remain unanswered. The members who resisted the suggestion of using contract extensions as incentives gave several reasons. First, contract re-negotiation is viewed as an opportunity to negotiate change, such as is occurring now with the Lawrence Berkeley National Lab and other science labs. Second, these members view competition and award fee as clear incentives for improving performance and are unconvinced that no form of monetary reward exists to motivate this not-for-profit contractor. More reward fee for the laboratory could be used for facilities or other program enhancements, for example that would benefit the working environment at the lab. On the other hand, quantifying success of long-term research is difficult, can be abused, and is subjective in nature. These reservations make the proposed incentive seem unrealistic to some members of the working group.

Required Actions for Successful Adoption of Best Practices. To overcome the barriers to the successful implementation of these best practices, the Working Group recommends that the following **additional steps** be taken **before initiating** a pilot. These steps are required if the pilot is to have some realistic prospect of bringing about needed changes in practice at DOE.

1. Involve the Director of the Office of Science, the Secretary of Energy, the Deputy Secretary of Energy, and Under Secretary of Energy in determining and implementing changes. Prior to beginning a Best Practices Pilot, there must be agreement that the pilot will encompass changes throughout the Department of Energy system, including the headquarters. The pilot will not succeed if it is focused solely on changes at the laboratory. The Working Group assumes that adoption of the best practices will require additional changes within the headquarters beyond the change required to adopt the first best practice—single official for oversight.

2. Collect baseline data so that savings can be quantified and documented. The report implies that the cost of doing science at the Berkeley Laboratory is higher than necessary, but provides only sketchy corroborating data. We would expect that savings should occur at DOE and the laboratory. Savings at all levels should be quantified.

3. Appropriate system-level metrics must be identified. The metrics to be adopted should be acceptable in satisfying the Department's oversight responsibilities. The number of metrics should be limited to 10 to 15 meaningful and useful metrics. Baseline data on the system-level metrics should be collected prior to the start of a pilot so that the savings can be documented. The resulting data will be useful in evaluating the benefits of the new practices and in demonstrating accountability to external agencies. In addition, the data will assist in identifying areas where further savings may be achieved.

4. Concrete decision points and milestones for implementation of the best practices should be identified. The Department can maintain the focus on change by setting and tracking the milestones, which will provide substantiating evidence of accountability and savings.

5. The Department of Energy Inspector General, the General Accounting Office, and key Congressional staff must be kept informed about the changes that are being planned in the Department.

6. Bilateral agreements on operating principles must be developed in all affected functional areas within the Department (Environmental Safety and Health, Contracts, Security, Human Resources, Budget, and so on).

The actions described above should be reflected in the decision points for determining if a pilot program is required to adopt the best practices, if a pilot program should be initiated, if it should be continued and if it is successful.

7. The Working Group suggests a further area of investigation. In dialogues with its laboratory partners, the Berkeley Laboratory Study Team agreed to limit its data collection to laboratory personnel and personnel from the agencies' local site offices. However, at some point, either the lab or headquarters personnel should obtain the perspective of the National Aeronautics and Space Administration and National Science Foundation headquarters elements concerning their current management relationship with their laboratories. This contact may provide additional insights and refinements in the administrative and operational processes adopted as part of the pilot or when being considered at another site.

Recommendations. The Working Group recommends that in initiating a pilot the greatest emphasis should be placed on the first best practice--streamlining and simplifying the lines of authority. The members believe that to the degree that this best practice is adopted, other best practices will fall into place. Furthermore, the Working Group sees no reason to limit this best practice only to Lawrence Berkeley National Laboratory.

The remaining five best practices identified in the study incorporate sound management principles, but the Department may want to consider a brief one-year pilot prior to adapting and then adopting them at the other DOE laboratories, with appropriate milestones and decision points. The decision points should include the criteria for evaluating whether to adopt or modify a current implementation of a best practice.

The Laboratory Operations Board Terms of Reference states that recommendations from subcommittees will be presented to the full Board for recommendation to the Secretary of Energy Board. That Board will then consider whether to approve the results for recommendation to the Secretary. This Working Group suggests that the Laboratory Operations Board recommend that the Secretary cause the headquarters elements to initiate the necessary processes to adopt the Best Practices proposed in the "DOE Best Practices Pilot Study" immediately. This

consists principally of addressing steps 1-6 listed above and putting a pilot plan at LBNL in effect. Where appropriate and keeping in mind the proverb that "one size does not fit all," other DOE laboratories with other missions should be encouraged to adopt and adapt. Lessons learned from these initiatives should be shared system wide.

Conclusion. The Working Group appreciates the opportunity given to them to work on this project. The members firmly believe that the pilot signals an important first step in a process that the Department has undertaken to achieve greater efficiency and do better science. The process will require determination and discipline at the headquarters and throughout the Department. The members extend their best wishes as well as the offer to the Department to assist in this undertaking in whatever manner might be useful.

DRAFT

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